Differences in Parental Attitudes and Tolerance of Child Exposure to and Participation in Gambling, Alcohol and Nicotine Use

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Suggested Running Title: *Parental Tolerance of Child Exposure and Participation in Gambling, Alcohol and Nicotine Use*

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Abstract

This study investigated parental attitudes toward child exposure to alcohol, nicotine (smoking tobacco) and gambling, via a questionnaire that examined parental tolerance with regard to hypothetical scenarios of exposure and participation, alongside perceptions of the importance of associated health promotion for each activity. It was hypothesised that parents would indicate significantly less tolerance of, and rate health promotion activity of greater importance for, nicotine and alcohol in comparison to gambling. Results from a sample of 500 UK based parents, showed significantly less tolerance for nicotine versus alcohol and gambling in all hypothetical scenarios of exposure and direct participation. Parents also reported significantly less tolerance surrounding child consumption of alcohol than gambling. Health promotion activity surrounding nicotine was rated significantly more important than that of alcohol and gambling. It is argued that greater parental concern surrounding nicotine was attributable to increased availability of knowledge surrounding associated risks of smoking behaviour within existing regulation and health promotion activity. Arguments are made for increased public awareness of the potential harms that may be associated with gambling behaviour, which may assist parents in making informed decisions regarding their children's exposure to and participation in gambling-related activities.

Key Words: Gambling, Alcohol, Nicotine, Attitudes, Exposure, Parental

Following publication of the latest edition of the Diagnostic Statistical Manual of Mental Disorders (DSM-V) in 2013, gambling received recognition as an addictive behaviour (Gambling Disorder). This shift in conceptualisation of disordered gambling came following recognition that not only did pathological gamblers experience social, interpersonal and financial shortcomings as a result of behaviour (Mental Health Foundation, 2009), but neurological mechanisms activated through engagement in gambling have also been shown to strongly resemble those also active in individuals engaging in other addictive behaviours associated with substance misuse including alcohol and nicotine. Support for this theory has risen primarily from neuroscientific research and has offered substantial evidence to suggest that much like addictive behaviour associated with substance misuse, gambling too has been found to stimulate reward centres in the brain with emphasis on the mesolimbic dopamine pathway (van Holst, Brink, Veltman & Goudriaan, 2010).

Given that gambling has been equated to other addictive behaviours at a neurological level in addition to awareness of the impact of problematic gambling on personal, social and financial wellbeing, it would be reasonable to assume regulation and health promotion activity associated with prevention and/or reduction of engagement in gambling would be equivalent to that of other accessible and conventional but potentially addictive substances, for example, alcohol and nicotine. However, this is not the case within the UK.

The discrepancy between the intensity and prevalence of regulation and health promotion activity associated with alcohol, nicotine and gambling can perhaps be best demonstrated

through observation of national expenditure data. In 2007, Joossens and Raw identified that of 30 major European nations, the UK scored the highest in a review of tobacco control regulatory policies. UK government expenditure on smoking cessation campaigns have risen from £21.5m in 2000 to over £87m in 2013, and in addition, £58.1m was spent on smoking cessation medicinal aids and a further £8.21m on mass media campaigns to discourage smoking behaviour (Action on Smoking and Health, 2014).

As it stands in the UK, the advertisement and endorsement of tobacco brands is prohibited at a marketing and sponsorship level, both via the media and at point of sale. The *Smoke-Free Regulations* (UK) legislation of July 2007 also banned smoking in any substantially enclosed space, limiting nicotine use to open spaces and designated areas only. In addition to preventative measures, direct acts have also been taken to warn of risks associated with smoking through prominent advertising campaigns educating viewers and encouraging abstinence in those who already use nicotine. The National Health Service in the UK has also become actively involved in a bid to reduce smoking in the UK, offering smoking cessation services including nicotine replacement therapy such as e-cigarettes, nicotine patches and gum, and nasal/mouth sprays (Turner, McNeill, Coleman, Leonardi & Agboola, 2013).

With regard to alcohol, in 2009/10, the UK government spent £17.6 mil on information and educational campaigns surrounding alcohol, understanding alcohol units and to promote responsible drinking behaviour (House of Commons Health Committee, 2010). In contrast to smoking nicotine, health promotion activity surrounding alcohol use focusses primarily on the reduction of consumption rather than complete abstinence. Currently in the UK, it is illegal for anybody under the age of 18 to purchase or consume alcohol. In 2005, UK legislation tightened advertising guidelines in response to the Alcohol Harm Reduction Strategy (Cabinet Office:

Prime Minister's Strategy Unit, 2004), assuring that promotional alcohol advertisements were not to target or appeal to minors through glamorisation of alcohol, such as linking its use with perceived social success, seduction or sex, or demonstrating irresponsible use or be endorsed by someone appearing under the age of 25 (BCAP, 2010).

Much like consumption of alcohol and nicotine, recreational gambling behaviour in the UK has remained a legal and socially acceptable form of entertainment (Basham & Luik, 2011; Walker, 2007). The UK Gambling Act (2005) however has played an important role in the deregulation of gambling at the marketing level; and has enabled for the reduction of associated crime and the protection of young and vulnerable people (Light, 2007).

One item of the Act has surrounded enforcement of age restrictions meaning admission to casinos, machine operated gambling in public areas and betting in sports has been limited to individuals aged 18 or over and 16 for the national lottery. Given that research has indicated heightened risks of pathological gambling in the later life for adolescents who begin gambling at an early age (Rahman, Pilver, Desai, Steinberg, Rugle, Krishnan-Sarin & Potenza,. 2012), age restrictions have served at a preventative level, thus potentially reducing the risk of later pathological gambling behaviour. However, age restriction associated with gambling behaviour is selective, as research has since indicated that children in particular are susceptible to financial loss in recreational slot-machines (i.e. fruit machines) in gaming arcades openly accessible for all ages. Fisher and Griffiths (1995), for example, identified a clear relationship between legal and socially acceptable forms of gambling in young people, such as slot-machines with low stake and prize limits, and later instances of pathological gambling. In addition, UK government expenditure on regulation of the gambling industry through the Gambling Commission has fallen from 16.7m in 2008 to 13.3m in 2011 (Culture, Media and Sport Committee, 2012). The

Gambling Commission's Review of Research, Education and Treatment (2008) also identified that although an estimated £9.37 is spent per adult gambler in the UK, this has compared unfavourably in consideration of other countries such as Australia, Canada and the USA where significantly more is spent on addiction services, ranging from £35 to £150 for each adult problem gambler.

Unlike strict advertising laws associated with endorsement of alcohol and nicotine products, commercial advertisements encouraging engagement in gambling activity have also remained present in the media and at point-of-sale locations, available to the entirety of the population. Not only have advertisements been consistently linked to participation in gambling in the general public (Binde, 2009), research has also identified that colour, animation, humour, graphics and music utilised in gambling advertisement have consistently appealed to youths (Korn, Reynolds & Hurson, 2008), which have also been shown to increase subsequent engagement in gambling behaviour (Wood & Griffiths, 1998).

Of critical importance to this research however has been evidence demonstrating the effect of such regulation (or indeed lack of regulation) on attitudes towards gambling behaviour. As a result of health promotional activity surrounding risks associated with alcohol and nicotine, research has identified increased awareness and subsequent negative shifts in public attitudes toward such behaviours (Edwards, Harris, Cook, Bedford & Zuo, 2004). The prevalence of gambling advertisements in circulation, and their engaging, positive and familiar nature has however been shown to shift viewers' attitudes toward gambling as an acceptable and enjoyable recreational activity (McMullan, Miller & Perrier, 2012). This representation of gambling in the media and society has also been shown to influence parental attitudes. For example, Ladouceur, Jaques, Ferland and Giroux (1998) identified that of the parents participating in the study, 84%

reported willingness to assist their own children between the ages of 5 and 17 in the purchase of lottery tickets.

Data surrounding attitudes toward gambling however are conflicting. The eight item Attitudes toward Gambling Scale (ATGS-8) as part of the 2010 British Gambling Prevalence Survey (Wardle et al., 2011) sought to assess UK population attitudes toward gambling in general rather than specific forms. The 2010 administration of the ATGS-8 identified that in general, the UK population held more negative attitudes toward gambling behaviour. Though results suggested the UK population as generally in favour of the idea that individuals should be able to gamble when they want, results also identified a strong tendency toward the belief that gambling does more harm than good and should be banned all together (Wardle et al., 2011). Negative attitudes toward gambling behaviour were consistent across age, gender, marital status, ethnicity and level of education (Wardle et al., 2011). However, results from the 2010 ATGS-8 however, were found to be significantly more positive than those recorded in 2007. In this sense, although the population has maintained generally more negative attitudes toward gambling, attitudes have shifted in favour of gambling behaviour in recent years.

Through brief exploration of existing health promotion activity in the UK, it appears that the perceived risk associated with smoking nicotine and drinking alcohol has been addressed more effectively and specifically in UK regulation and health promotion activity than gambling. The current study has investigated parental attitudes surrounding child exposure to alcohol, nicotine and gambling. Given the observed variation in information available across all media platforms surrounding gambling, alcohol and nicotine use, it was hypothesised that participants would be more aware of risks associated with substance use and misuse and therefore, would demonstrate less tolerance in all hypothetical scenarios of exposure to, and participation in drinking alcohol

and smoking nicotine in contrast to gambling. Individual components of gambling, alcohol and nicotine exposure were also considered, and it was predicted that parents would report less tolerance for alcohol and nicotine than gambling with regard to advertising and exposure in the media, store advertisement, exposure in the social environment and sponsorship in sport. In addition, it was hypothesised that as a result of greater attention to alcohol and nicotine reduction and awareness in regulation and health promotion activity, participants would rate age restrictions, advertising bans, health education in schools, warning advertisements and public health initiatives as significantly more important with regard to alcohol and nicotine opposed to gambling.

Methodology

Participants

A total of 500 parents, aged between 18 and 61 years (M=31.63) were recruited to take part in the study; and 25.2% (126) of whom were male and 74.8% (374) were female. Inclusion criteria required participants to be over 18 years old, to be full time residents of the United Kingdom and that their oldest child is aged 17 or under and currently within their care. Data were collected via a digital survey provider, and participants were recruited through open social networks, specifically via UK based web-communities and twitter accounts orientated towards general adult populations. To assist with obtaining data that were representative of the population the survey was advertised within online parenting groups that were specific to a wide variety of geographical locations within the UK.

Procedure

Data were obtained through administration of an online questionnaire, hosted on a digital survey aggregator, using a repeated measures design which explored parental attitudes surrounding child exposure to three potentially addictive behaviours: Gambling, Alcohol and Nicotine use. Questions were designed for the purpose of research in accordance with pre-determined hypotheses, and participants were instructed to answer with their first born child in mind at all times whilst indicating level of agreement, on a 5-point likert scale, to hypothetical statements surrounding tolerance of child exposure to alcohol, nicotine and gambling. In total parents were asked to rate their level of tolerance of their child's interaction with gambling, alcohol and nicotine across the following variables: Participation (Use), General Exposure, Store Advertisement Exposure, Media Advertisement Exposure, Social Exposure and Sponsorship Exposure.

In addition, a second set of questions measured the parent's perceived importance of health promotion activity associated with alcohol, nicotine and gambling on a 10-point rating scale. Finally, participants were also requested to report their age and gender, and their first born child's age and gender, whom the parents were directly considering when addressing the exposure and participation questions.

Data Analysis

Following data collection, data entry and statistical analysis were performed using SPSS software (version 21) in accordance with the proposed hypotheses. Using a repeated measures ANOVA procedure, parental tolerance of exposure to, and also importance ratings of public health awareness, were compared across the three risk behaviours of gambling, alcohol and nicotine use.

Results

Questionnaire items assessing parental tolerance of their child's interaction with gambling, alcohol and nicotine, were separated into categories of exposure and participation. With regard to exposure, parents indicated significantly less tolerance surrounding child exposure to nicotine, than alcohol and gambling. A repeated measures ANOVA revealed the main effect of behaviour type to be statistically significant $F(1.72, 202.9) = 48.2$, $p<0.001$. Bonferonni post hoc analysis identified significantly less tolerance for nicotine than alcohol ($p<0.001$) and gambling ($p<0.001$).

With regard to direct participation, parents indicated less tolerance surrounding their children's ability to buy or use nicotine than alcohol and gambling. A repeated measures ANOVA revealed the main effect of behaviour type on parental tolerance to be statistically significant $F(1.71, 82.40)=30.95$, $p<0.001$. Bonferonni post hoc analysis, identified significantly decreased parental tolerance for nicotine use over alcohol use ($p<0.001$) and gambling participation ($p<0.001$). Parents also reported significantly decreased tolerance surrounding child participation in drinking alcohol than participating in gambling ($p<0.001$).

In analysis of individual components of exposure to the three risk behaviours, repeated measures ANOVA consistently identified the main effect of behaviour type on parental tolerance to be statistically significant. Essentially, parents reported significantly decreased tolerance surrounding child exposure to nicotine than alcohol and gambling with regard to social exposure $F(1.79, 870.84) = 214.754$, $p<0.001$, advertisement and exposure in the media $F(1.27,630.68) = 416.7$, $p<0.001$, advertisement in stores $F(1.88, 922.16) = 129.085$, $p<0.001$, and sponsorship $F(1.91, 929.32) = 160.5$, $p<0.001$. Bonferonni post hoc analysis identified significantly

decreased tolerance surrounding child exposure to alcohol than gambling in the social environment ($p<0.001$). However, there was no significant difference between parental tolerance surrounding alcohol and gambling sponsorship ($p>0.05$). Yet with regard to direct advertising, parents also reported decreased tolerance surrounding child exposure to gambling than alcohol, in both the media ($p<0.001$) and in stores ($p<0.001$).

Table I: Mean values of parental tolerance to hypothetical statements surrounding child exposure to alcohol, nicotine and gambling behaviour.

Parental Tolerance		*Alcohol*		*Nicotine*		*Gambling*	
	N	**Mean**	***SD***	**Mean**	***SD***	**Mean**	***SD***
General Exposure	499	26.27	7.97	18.48	7.79	25.06	10.39
Participation (Use)	499	4.28	2.38	3.39	1.5	4.96	2.9
Store Advertisement Exposure	491	2.96	1.2	2.01	1.16	2.67	1.25
Media Advertisement Exposure	499	4.95	2.03	5.92	3.06	7.87	3.03
Social Exposure	485	7.64	2.79	4.5	2.19	6.44	3.26
Sponsorship Exposure	487	5.87	2.23	4.21	2.25	5.8	2.48

Participants were also asked to indicate their attitudes regarding the importance of health promotion activity associated with alcohol, nicotine and gambling. A repeated measures

ANOVA identified the main effect of risk behaviour type to be statistically significant $F(1.43,687.62) = 106.506$, $p<0.001$. Post-hoc analysis revealed health promotion activity associated with nicotine was rated significantly more important than both alcohol ($p<0.001$) and gambling ($p<0.001$). Health promotion activity associated with alcohol was also rated significantly more important than that of gambling ($p<0.001$) as presented in Table 2.

Table II: Mean parental ratings of the importance of regulation and health promotion activity associated with alcohol, nicotine and gambling

		Alcohol		*Nicotine*		*Gambling*	
	N	**Mean**	***SD***	**Mean**	***SD***	**Mean**	***SD***
Health promotion activity	483	43.75	6.63	47.37	4.65	41.52	10.86

Discussion

From casual observation and national expenditure data, it was evident that the content and prevalence of UK regulation and health promotion activity was superior for nicotine and alcohol than that of gambling. The current study sought to explore the impact of this on parental attitudes surrounding exposure of gambling to children, in contrast to nicotine and alcohol. From research which identified negative attitude shifts surrounding alcohol and nicotine following heightened public awareness (Edwards, 2004) it was hypothesised that parents would consistently indicate greater tolerance for their children to be exposed to and engage in gambling over alcohol and nicotine use.

The results identified significantly less parental tolerance surrounding both child exposure to, and participation in nicotine/smoking behaviour and alcohol than gambling. Similarly, as predicted, parents reported significantly less tolerance surrounding child exposure to nicotine than gambling in all hypothetical scenarios of exposure including advertising in the media and stores, sponsorship in sport and social exposure. Though parents also indicated less tolerance for child exposure to alcohol than gambling, the difference here failed to reach significance.

The findings demonstrating decreased tolerance for nicotine and alcohol in comparison to gambling have supported initial hypotheses and therefore, it could be argued that the aforementioned content and high prevalence of health promotion activity and deterrence measures in the UK has been effective in raising public awareness of the risks associated with nicotine and alcohol use. Increased awareness of associated risk made possible through greater prevalence and availability of information derived from scientific research has likely played a role in the shift of attitudes within the general public, and therefore supporting existing research.

On the other hand, results which indicated greater leniency surrounding child exposure to gambling behaviour could also be argued to be attributable to the more relaxed gambling regulations in terms of advertising and availability in the UK. The effect of advertising in particular has been shown to cause attitudinal shifts toward acceptance of gambling as an enjoyable recreational activity (McMullan, Miller & Perrier, 2012) with particular emphasis on the prospect of financial gain despite unrealistic odds (McMullan & Miller, 2009). With this in mind, it could subsequently be argued that to increase public health awareness associated with

participation in gambling behaviour, alongside greater enforcement of advertising regulation, would improve public understanding of associated risk, serving to reduce engagement and increase parental and societal vigilance, aiding in the protection of young and/or vulnerable people (Edwards et al, 2004). Although results which indicated less parental tolerance for child exposure to alcohol than gambling failed to reach significance. Suggestions could also be made to for the need to increase regulation and health promotion activity associated with alcohol.

Parents were also asked to rate the importance of existing regulation and health promotion activity associated with alcohol, nicotine and gambling. As hypothesised, parents rated health promotion activity associated with nicotine of much greater importance than that of alcohol and gambling. Furthermore, parents also rated the importance of health promotion activity surrounding alcohol as significantly more important than gambling. The increased importance attributed to health promotion associated with nicotine and alcohol over gambling may be explained as a result of the existence of high prevalence in the UK, in relative terms, of information available surrounding risks associated with alcohol and nicotine use. Therefore, it is possible to conclude that increasing public awareness of the possible harms associated with gambling would increase the perceived importance of monitoring participation and discussing gambling-related behaviour with one's children; potentially to a level of importance equivalent to alcohol and nicotine use.

Limitations-

A number of considerations surrounding the nature of data collection must be considered when interpreting the findings proposed in the current study. For example, to assume a causal

relationship in which existing regulation and health promotion activity acts as the sole factor influencing parental attitudes toward the three risk behaviours could be criticized. It may be the case that existing public attitudes surrounding the perceived risk of nicotine, alcohol and gambling caused the aforementioned discrepancy in regulation and health promotion activity. The use of online questionnaires allowed for wide distribution and rapid attainment of quantitative data from a geographically widespread sample of the specified research population. However, clearly, specific subgroups of parents may have been under-represented in the study, including those parents who do not have English as a first language and parents that either have limited access to, or limitation understanding of, information technology in general and social media in particular. This means that lower income parents may been under-represented, which may be problematic as lower income has been significantly associated with engagement in gambling (Downs & Woolrych, 2010), alcohol and nicotine use (DeSilva, Samarasinghe & Hanwella, 2011) and therefore these findings must be interpreted with caution.

Secondly, the questionnaire did not account for personal or familial history of substance use or disorder, or gambling participation, which may have influenced responses. Future research would perhaps benefit from additional questionnaire items to assess the impact of personal experiences of gambling and nicotine and alcohol use on attitudes to their child's exposure and participation.

In addition, unlike smoking nicotine and drinking alcohol, the concept of gambling encompasses a wide range of activities varying quite substantially in behaviours involved and quantity of

money at stake. In this sense, although the questionnaire told parents to think of gambling in general, results may have been influenced by pre-existing ideology surrounding what it means 'to gamble'. Regardless of this, it could be argued that to increase parental awareness of research which has indicated even low-stakes gambling in childhood as a significant risk factor for the development of pathological gambling in later life (Fisher & Griffiths, 1995) would increase subsequent parental vigilance surrounding all types of gambling.

Conclusion

In conclusion, results consistently demonstrated decreased levels of parental tolerance surrounding child exposure to nicotine in contrast to gambling behaviour in all hypothetical scenarios of child exposure and participation. Though parents did indicate less tolerance surrounding child exposure to alcohol than gambling, the difference was not significant. Health promotion activity associated with nicotine and alcohol were rated significantly more important than that of gambling.

Decreased parental tolerance for nicotine and alcohol over gambling was argued to be attributable to existing variance in the prevalence and content of associated regulation and health promotion activity. It was inferred that parents would be more aware of the risks associated with nicotine consumption and so demonstrated increased vigilance surrounding the notion of child exposure to nicotine and alcohol over gambling.

This study may have demonstrated the impact of regulatory context and health promotional activity in the UK on subsequent attitudes and understanding of the potentially addictive behaviours of gambling, alcohol and nicotine use. Therefore, it is reasonable to propose that an increase in health promotion activity associated with gambling behaviour may serve to increase public awareness of risks associated with gambling, and as a result potentially increase parental vigilance surrounding child interaction with gambling and gambling-related stimuli.

All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000 (5). Informed consent was obtained from all patients for being included in the study.

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